

# **Mortality and Disease**

## POST-MORTEM EXAMINATION OF *CYGNUS CYGNUS CYGNUS* IN JAPAN

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Since 1973, about 70 dead *Cygnus cygnus cygnus* in Hokkaido have been sent to the Hokkaido Institute of Public Health in close co-operation with the Swan Society of Japan, Hokkaido Branch. Dead swans were examined from a hygienic point of view to investigate the cause of their death and also as the indicator of environmental pollution in Hokkaido. Results of chemical analysis of the total mercury in brains and feathers, heavy metal contents in feathers and organic hydrochloride and residues of other chemicals in organs show a lower level in two figures than in examinations of Hokkaido crows, reported in 1974. Nematodes in heart and stomach, trematodes in orbits, intestine and caecum, mites in nasal cavities were found in parasitological examination. Residual pellets of lead shot in muscles were found by x-ray and autopsy. As they were in small numbers per swan, they may not have had a direct effect on the swans. They will, however, be an indirect cause of death by impeding actions and causing clinical infirmity under severe winter conditions.

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## MORTALITY FACTORS OF WILD SWANS IN BRITISH COLUMBIA, CANADA

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### Introduction

Necropsies were performed on 52 *Cygnus columbianus columbianus* and 114 *Cygnus cygnus buccinator* from British Columbia, Canada. The birds were collected between June 1965 and October 1979 in coastal and interior areas. Although a feral *Cygnus olor* population is present on southern Vancouver Island (McKelvey 1979), none has yet been submitted for necropsy.